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EXAMINER

TAKELE, MESEKER

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/797,957	Applicant(s) DESYLVA, CHUCK V.	
	Examiner MESEKER TAKELE	Art Unit 2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to the Amendment filed 09/26/ 2007.
2. Claims 1-24 are pending in this application. Claims 1, 8, 15, 20 and 25 are independent claims. In the instant Amendment, claims 1, 8, 15, 20 and 25 were amended.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5- 6, 14 -15, 18-19 and 26 - 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al. (“Smith”, US Patent No.: 6,311,324).

As to claim 1, Smith discloses a method, comprising:

detecting, by a software application, the processing of a graphics application (example, detecting, CPU process, graphical, col., 4 lines, 13-26, col., 2 line, 7), as the

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graphics application executes on one or more processors (such as, the processor type is displayed in a drop-down list box, Figure 2 (element 206));

inspecting selective contents of a processor at intervals during the processing (example, analyze, see Figure 3 (element 312), example, CPU time spent col., 2 lines, 5-10);

dynamically presenting the selective contents to a display at the defined intervals (example, selected, displayed, Figure 1 (element 102), Figure 2 and col., 2 lines, 10-15).

As to claim 5, Smith discloses wherein presenting further includes presenting portions of the selective contents as a graphical bar which grows larger as more activity is detected within the processor during the processing (example, HI, see Figure, 2 (element 202 and 204)) and which grows smaller as less activity is detected with the processor during processing. (examples, low, see Figure, 2 (element 202 and 204)).

As to claim 6, Smith discloses wherein presenting further includes associating and presenting labels with portions of the selective contents within a display window (Figure, 2).

As to claim 14, Smith discloses further comprising dynamically presenting the presentation within a portion of a display that presents the graphics data of the graphics application (Figure 2, and Figure 4 element (402)).

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As to claim 15 Smith discloses, a system, comprising: a graphics monitor (Figure 3, (element 306)) and a graphics display interface (Figure 1 (element 102)),

wherein the graphics monitor processes while a graphics application processes while a graphics application executes on one or more processors processes (Figure 3 (element 304 and 306) and such as, the processor type is displayed in a drop-down list box, Figure 2 (element 206)); and inspects selective contents of a processor at intervals, (example, analyze, Figure 3 element 312, example, CPU time spent, col., 2 lines, 5-10) and wherein the selective contents are communicated to the graphics display interface to be dynamically presented at the intervals on a display (Figure 1 and Figure 2).

As to claim 18, Smith discloses wherein the graphics display interface presents the selective contents within a graphic window of the display (example, a graphical view of the hotspots is displayed in window, col., 2 lines, 9-10).

As to claim 19, Smith discloses where the graphic window is overlaid on one or more additional windows which are presented as a result of the processing graphics application within the display (example, windows, Figure 1 (element 102) and Figure 2).

As to claim 26, Smith discloses wherein the graphic window is concurrently updated and displayed as an overlay to one or more additional graphical windows within the display, which present graphical data, associated with the processing graphics application (example, windows, update, Figure 1 (element 102), Figure 2 and col., 7 lines, 25).

As to claim 27, Smith discloses wherein the monitor interface logic can suspend or restart the processing of the monitor logic (Figure 3, (element 300 and 310)).

As to claim 28, Smith discloses wherein the monitor logic (example, computer system, monitor application, col., 2 line 2 and col., 3 line, 41) is configured to inspect the selective memory contents during at least one of pre-defined intervals (example, analyze, memory, Figure 3 (element 312), example, CPU time spent col., 2 lines, 5-10 and col., 3 lines, 55-60) and randomly generated intervals (example, Every time the loop executes, generates several redundant instructions. col., 10 lines, 10-15).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-4, 7, 11-12, 16-17 and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. ("Smith" US Patent No.: 6,311,324) in view of Fliflet (US Pub. No.: 2002/0140710).

As to claim 2, Smith disclose inspecting additional selective contents of a graphics driver at the intervals during the processing (example, analyze, Figure 3 element 312), and CPU time spent col., 2 lines, 5-10).

However Smith does not specifically disclose a graphics driver.

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Fliflet from the same field of endeavor discloses a graphics driver (example, software driver, paragraph [0012]).

It would have been obvious to one of ordinary skill in the art to have modified Smith's software profiler at the time of the invention was made with software driver as presented by Fliflet. The motivation to combine provides a dynamic approach to software zone rendering and is particularly applicable to integrated graphics hardware devices that require software zone rendering. Fliflet- paragraph [0048].

As to claim 3, Smith does not disclose hardware performance counters of the processor.

Fliflet from the same field of endeavor discloses examining hardware performance counters of the processor (example, determine whether there is an imbalance between the software driver and graphics hardware, driver counter, paragraph [0012], [0041] and Figure 1 (element 106)).

It would have been obvious to one of ordinary skill in the art to have modified Smith's software profiler at the time of the invention was made with driver counters as presented by Fliflet.

The motivation to combine provides a dynamic approach to software zone rendering and is particularly applicable to integrated graphics hardware devices that require software zone rendering. Fliflet - paragraph [0048].

As to claim 4, Smith does not disclose wherein inspecting further includes acquiring zone rendering information as the selective contents.

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Fliflet from the same field of endeavor discloses wherein inspecting further includes acquiring zone rendering information as the selective contents (Figure 2 and abstract).

It would have been obvious to one of ordinary skill in the art to have modified Smith's performance analyzers at the time of the invention was made with zone rendering as presented by Fliflet.

The motivation to combine provides to balance software and hardware workloads on a graphics renderer. Fliflet - paragraph [0008].

As to claim 7, Smith discloses wherein associating and presenting further includes presenting the labels as at least one of total pixels rendered label, a polynomial entering rendering label, and a polynomial entering a hard ware binner label (Figure, 2).

However Smith does not specifically disclose rendering and binning hardware.

Fliflet from the same field of endeavor discloses rendering and binning hardware (example, binning and rendering hardware, paragraph [0021]).

It would have been obvious to one of ordinary skill in the art to have modified Smith's associating and presenting labels at the time of the invention was made with binning and rendering hardware as presented by Fliflet.

The motivation to combine provides to balance software and hardware workloads on a graphics renderer. Fliflet - paragraph [0008].

As to claim 11, the modified Smith does not disclose wherein periodically retrieving further includes inspecting memory associated with a processor.

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Filfet from the same field of endeavor discloses wherein periodically retrieving further includes inspecting memory associated with a processor (example, memory, see paragraph 0020) and a graphics driver to retrieve the performance data (example, driver, see paragraph 0012).

It would have been obvious to one of ordinary skill in the art to have modified the modified Smith's software performance at the time of the invention was made with memory and graphics driver as presented by Filfet. The motivation to combine provides a dynamic approach to software zone rendering and is particularly applicable to integrated graphics hardware devices that require software zone rendering. Filfet - paragraph [0048].

As to claim 12, Filfet discloses retrieving zone-rendering information from the memory related to rendering a three-dimensional image (example, three-dimensional, see paragraph [0005]).

As to claim 16, Smith discloses wherein the graphics monitor also inspects additional selective contents associated with a graphics driver and communicates the additional selective contents to the graphics display interface where they are dynamically and concurrently presented at the intervals on the display with the selective contents (Figure 1 and Figure 2).

However Smith does not specifically disclose graphics driver.

Filfet from the same field of endeavor discloses graphics driver (example, software driver, paragraph [0012]).

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It would have been obvious to one of ordinary skill in the art to have modified Smith's graphic monitor at the time of the invention was made with software driver as presented by Fliflet.

The motivation to combine provides a dynamic approach to software zone rendering and is particularly applicable to integrated graphics hardware devices that require software zone rendering. Fliflet - paragraph [0048].

As to claim 17, Smith does not disclose wherein the selective contents are related to at least one of zone-rendering information and double-data-rate synchronous dynamic random access memory speed information.

Fliflet from the same field of endeavor discloses wherein the selective contents are related to at least one of zone-rendering information (Figure 2) and double-data-rate synchronous dynamic random access memory speed information (example, a dynamic random access memory (DRAM) device, a static random access memory (SRAM) device, or other memory device, paragraph [0020] (other device could be synchronous RAM (SRAM), dynamic RAM (DRAM), synchronous DRAM (SDRAM), double data rate SDRAM (DDR SDRAM) because RAM is available in many forms).

It would have been obvious to one of ordinary skill in the art to have modified Smith's selective content at the time of the invention was made with zone-rendering information and random access memory speed information as presented by Fliflet.

The motivation to combine provides to balance software and hardware workloads on a graphics renderer. Fliflet - paragraph [0008].

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As to claim 21, Smith does not disclose wherein the graphics application is an application related to an electronic game.

Fliflet from the same field of endeavor discloses wherein the graphics application is an application related to an electronic game (example, image, see paragraph [0006] and video display screen see, paragraph [0004]).

It would have been obvious to one of ordinary skill in the art to have modified Smith's profiler at the time of the invention was made with image and video display screen as presented by Fliflet. The motivation to combine will provide highly detailed representations and are used in a variety of applications. Fliflet - paragraph [0004].

As to claim 22, Smith does not disclose including instructions for acquiring the performance data from a processor that is processing the graphics application and from a graphics driver associated with the processing of the graphics application.

Fliflet from the same field of endeavor discloses instructions for acquiring the performance data from a processor that is processing the graphics application and from a graphics driver associated with the processing of the graphics application (example, instruction, graphic processor, driver, paragraph [0019]).

It would have been obvious to one of ordinary skill in the art to have modified Smith's profiler at the time of the invention was made with instructions, for acquiring performance data (paragraph [0019]) as presented by Fliflet.

The motivation will provide to issues signals over common bus 112 for reading and writing to memory 108 or to I/O device 110 in order to manipulate data. Fliflet - paragraph [0020].

As to claim 23, Smith does not disclose wherein the performance data is related to zone rendering associated with graphics data that the graphics application is processing.

Fliflet from the same field of endeavor discloses wherein the performance data is related to zone rendering associated with graphics data that the graphics application is processing (see Figure 2).

It would have been obvious to one of ordinary skill in the art to have modified Smith's performance profiler at the time of the invention was made with zone rendering as presented by Fliflet.

The motivation to combine provides to balance software and hardware workloads on a graphics renderer. Fliflet - paragraph [0008].

As to claim 24, Fliflet discloses wherein the graphics data is related to one or more three-dimensional objects (Paragraph 0005).

As to claim 25, Smith discloses monitor logic linked to selective portions of a graphics application (example, the program selects a portion of C program source code, Figure 4 (element 402) and monitor application, Figure 3, col., 306)

and monitor interface logic interfaced to the monitor logic and to a display associated with the graphics application (Figure 3 (element 318),

Wherein during execution of the graphics application on one or more processors the monitor logic is invoked (such as, the processor type is displayed in a drop-down list box, Figure 2 (element 206) and Figure 1 (element 104)) and

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dynamically inspects selective memory contents associated with a processor (col., 4, lines, 6-12).

the monitor interface logic presents the contents within a graphical window of the display (Figure 1 (element 102) and Figure 2).

However Smith does not specifically disclose graphics driver.

Filfet from the same field of endeavor discloses graphics driver (example, software driver, paragraph [0012]).

It would have been obvious to one of ordinary skill in the art to have modified Smith's teaching at the time of the invention was made with the teaching of Filfet.

The motivation to combine provides a dynamic approach to software zone rendering and is particularly applicable to integrated graphics hardware devices that require software zone rendering.

8. Claims 8-10, 13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. ("Smith" US Patent No.: 6,311,324) in view of Greenberg et al. ("Greenberg" US Patent No.: 7,171,651)

As to claim 8, Smith discloses graphics application executes on one or more processors ((such as, the processor type is displayed in a drop-down list box, Figure 2 (element 206)).

However Smith does not disclose retrieving, by a software utility, performance data associated with a processing graphics application and dynamically updating a presentation of the retrieved performance data.

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Greenberg from the same field of endeavor discloses retrieving, by a software utility, performance data associated with a processing graphics application and dynamically updating a presentation of the retrieved performance data (example, retrieve see, Figure 5 (element 516) and Figure 5 (element 500));

It would have been obvious to one of ordinary skill in the art to have modified Smith's teaching at the time of the invention was made with the teaching of Greenberg.

The motivation to combine will allow fine control over the types of events that are reported.

As to claim 9, Greenberg discloses determining a period for retrieving the performance database on a predefined period (example, periodically retrieved, determine whether the date and time see, abstract and col., 2 lines, 42-44).

As to claim 10, Greenberg discloses wherein periodically retrieving further includes determining a period for retrieving the performance data based on at least one of a randomly generated period and detection of an event (example, code generate event data, see col., 2 lines, 56-65, abstract and Figure 9 (element 90-8)).

As to claim 13, the modified Smith does not disclose linking portions of the graphics application to the processing of the method.

Greenberg from the same field of endeavor discloses further comprising linking portions of the graphics application to the processing of the method (see col., 5 line, 6).

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It would have been obvious to one of ordinary skill in the art to have modified the modified Smith's program performance at the time of the invention was made with linking as presented by Greenberg. The motivation to combine will provide distributed computing environments where tasks are performed by remote processing devices that are linked through a communications network. Greenberg - (col., 5 lines, 1-10).

As to claim 20, Smith discloses a machine accessible medium having associated instructions, (col., 1 line, 44) which when accessed, results in a machine performing:

monitoring performance data associated with a processing graphics application that is executing on one or more processors (such as, the processor type is displayed in a drop-down list box, Figure 2 (element 206) and col., 4 line, 9-11).

However Smith does not disclose dynamically updating a presentation of the performance data on a display at periodic intervals.

Greenberg from the same field of endeavor discloses dynamically updating a presentation of the performance data on a display at periodic intervals (example, retrieved updated, Figure 5 (element 500), Figure 2 (element 22) may provide output to a display screen, and col., 5 lines, 60-63).

It would have been obvious to one of ordinary skill in the art to have modified Smith's teaching at the time of the invention was made with the teaching of Greenberg.

The motivation to combine will provide to retrieve software components and store them on the mass storage device 14.

Response to Arguments

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Applicant's arguments with respect to the amended claims 1, 8, 15, 20 and 25 have been fully considered but they are not persuasive.

Applicant argues that:

The Smith et al reference does not teach that the graphics application is executing on one more processors while it is being monitored.

The Examiner disagree reasons that:

The Smith et al reference does teach that the graphics application is executing on one more processors while it is being monitored (such as, the processor type is displayed in a drop-down list box, Figure 2 (element 206)).

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MESEKER TAKELE whose telephone number is (571)270-1653. The examiner can normally be reached on Monday - Friday 7:30AM-5:00PM est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. T./
Examiner, Art Unit 2174

/David A Wiley/

Supervisory Patent Examiner, Art Unit 2174

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